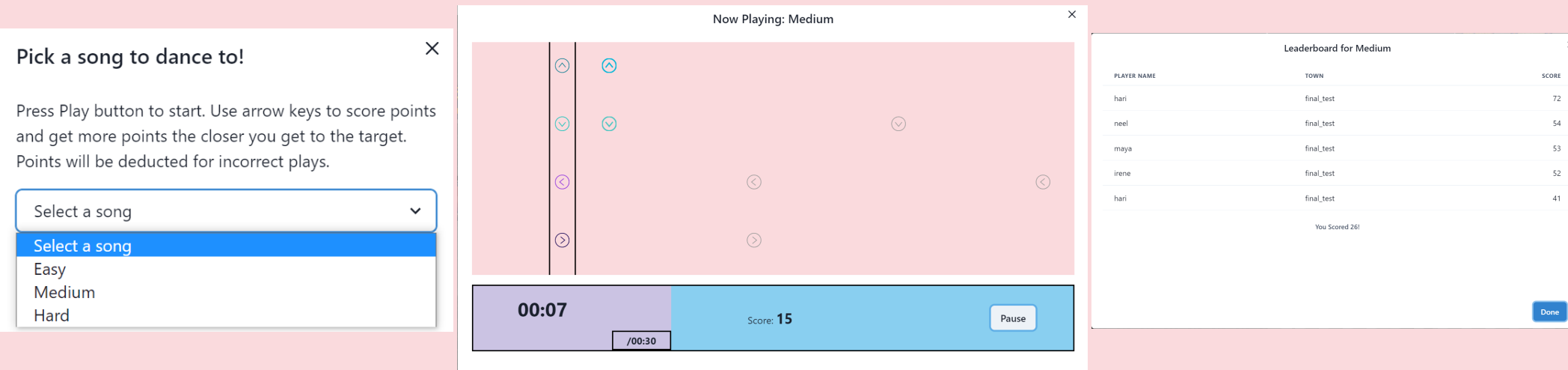# CS4530 Final Project: Dance Dance Revolution

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Our Feature: Dance Dance Revolution

Without other users, there wasn't much to do in Covey.Town, so we added a single player rendition of Dance Dance Revolution. Our Dance Areas allow users to select a song from a song list and play a game of Dance Dance Revolution using their arrow keys. Users will receive a score at the end of the song based on how accurately they were able to press the arrow keys. At the end of each game, the user is able to compare their score on the leaderboard against their own previous scores and the scores of other users who have played the same song.

Link to Repo and Demo Site

Code: https://github.com/neu-cs4530/fall-22-team-project-group-407.git | Demo: https://fall-22-team-project-group-407.netlify.app

Technology Stack and Design

We implemented the Dance Area within the existing Covey.Town codebase by extending the existing interactable area class. Each dance area is represented as an "object" in the tilemap, which can be easily manipulated using the map editor, "Tiled". These objects are dynamically constructed when the map is loaded, and rendered on the screen by Phaser. The dance areas are tracked by the DanceAreaController, which keeps track of the games being played. When a player enters a dance area, a message is displayed inviting them to choose a song for the dance area, which is inputted through a React modal. The scrolling arrows are then rendered using React elements reading users' keypresses to keep track of the score. We wrote a test suite using Jest testing for both the frontend and the backend. We deployed our final implementation using Netlify and Heroku.

Future Work

The original Dance Dance Revolution game is played to music, but our feature doesn't play any music while playing the game. Adding audio over the game and functionality to change the volume or mute the music is something to consider adding in the future to make the gameplay more interesting and fun for the user. Additionally, we could implement a feature that allows the user to add songs of their own creation, which would be a new frontend interactable on the main menu. Another feature that could be implemented is a way to see the leaderboards in the main menu instead of only after completing a game in its respective game mode. This would just simply be another drop down menu that allows the user to choose which leaderboard to view. We were also interested in being able to watch other users' games, but we weren't able to implement this feature.